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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,179	11/13/2001	Nevenka Dimitrova	US 010588	2739

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EXAMINER

LAYE, JADE O

ART UNIT	PAPER NUMBER
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2617

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/014,179	Applicant(s) DIMITROVA ET AL.	
	Examiner Jade O. Laye	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-338 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/24/03, 11/7/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

I. The information disclosure statement (IDS) submitted on 3/24/03 and 11/7/03 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner.

Specification

II. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. It is suggested Applicant insert language which is directed to the affecting of multimedia data in response to user physiological data.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

III. Claims 1-5, 11-13, 15, 25-29, 34, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Zawilinski. (US Pat. No. 5,676,138).

As to Claim 1, Zawilinski discloses a multimedia system comprising an emotional response analyzer. The system further comprises sensors for sensing the user's physical reactions (i.e., gaze, galvanic skin response, etc.) to various stimuli, including commercials, wherein said stimuli are associated with recognizable responses (i.e., surprise, anger, disgust, etc.). Moreover, this information can be indexed and associated with whatever stimuli were being displayed at the time of said response. (Fig. 1 & 2; Abstract; Col. 1, Ln. 6-47; Col. 3, Ln. 39-Col. 4, Ln. 47; Col. 5, Ln. 34-43, 63-Col. 6, Ln. 26, 35-Col. 7, Ln. 5; Col. 9, Ln. 50-64). Accordingly, Zawilinski anticipates each and every limitation of Claim 1.

Claims 11, 12, 26, and 34 are encompassed within the limitations of Claim 1. Thus, each is analyzed and rejected as previously discussed.

The limitations of Claim 2 are inherent in view of the rejection of Claim 1. In order for the system to be capable of indexing and associating user responses with various stimuli, it must have some form of memory. Accordingly, Zawilinski anticipates each and every limitation of Claim 2.

As to Claim 3, Zawilinski further discloses the system comprises a plurality of sensors. (Col. 6, Ln. 3-26). Accordingly, Zawilinski anticipates each and every limitation of Claim 3.

The limitations of Claim 4 are inherent in view of Claim 3. If the system has physiological sensors, it must have some form of receiver for receiving said signals. Accordingly, Zawilinski anticipates each and every limitation of Claim 4.

As to Claim 5, Zawilinski further teaches the system can analyze various physiological data including heart rate, galvanic skin response, etc. (i.e., aggregation of signals). (citations of Claim 1). Accordingly, Zawilinski anticipates each and every limitation of Claim 5.

As to Claim 13, Zawilinski further teaches the system can plot various stimuli changes over time (i.e., changes in condition relative to a baseline level). (Col. 9, Ln. 12-20). Accordingly, Zawilinski anticipates each and every limitation of Claim 13.

As to Claim 15, Zawilinski further teaches the system can analyzed the heart rate of a user. (citations of Claim 1). Accordingly, Zawilinski anticipates each and every limitation of Claim 15.

As to Claim 26, Zawilinski further teaches the system can analyzed the galvanic skin response of a user. (Col. 6, Ln. 10-19). Accordingly, Zawilinski anticipates each and every limitation of Claim 26.

As to Claims 27 and 28, Zawilinski further teaches the system is capable of measuring the gaze of the viewer and the electrical activity in muscles, which relates to negative/positive facial expressions. (Col. 4, Ln. 13-31 and citations of Claim 1). Thus, in essence, the system monitors gazing and facial expressions, which are both observable responses. Accordingly, Zawilinski anticipates each and every limitation of Claims 27 and 28.

As to Claim 29, Zawilinski further teaches the system can track the direction of the user's gaze. (Col. 9, Ln. 50-64). Accordingly, Zawilinski anticipates each and every limitation of Claim 29.

As to Claim 36, Zawilinski further teaches the system can analyze the electrical activity of a user muscles, including those used when laughing (i.e., which is an audibly observable response). (Col. 4, Ln. 14-31). Accordingly, Zawilinski anticipates each and every limitation of Claim 36.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

IV. Claims 6-10, 16, 17, 30, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in view of Kazama et al. (US Pat. No. 6,111,580).

Claim 6 recites the system of Claim 1, wherein at least one sensor is a video image capturing device. As discussed above, Zawilinski anticipates each and every limitation of Claim 1, but fails to specifically recite the limitations of Claim 6. However, within the same field of endeavor, Kazama et al disclose a similar system, which comprises a video camera. (Col. 3, Ln. 34-37). Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to combine the systems of Zawilinski and Kazama in order to provide a system which allows for a visual analysis of a viewer's responses to programming data.

Claim 16 corresponds to Claim 6. Thus, it is analyzed and rejected as previously discussed.

As to Claim 7, Kazama further discloses the system analyzes images of a user's face to determine gaze direction and gesturing (i.e., library of images used for comparisons). (Col. 3, Ln. 38-Col. 4, Ln. 46; Col. 5, Ln. 26-33). Accordingly, the combined systems of Zawilinski and Kazama disclose all limitations of Claim 7.

Claim 17 corresponds to Claim 7. Thus, it is analyzed and rejected as previously discussed.

As to Claim 8, it is inherent the system of Kazama comprise a recorder for recording the images in order to determine the gaze and gesturing of the user. (citations of Claim 7). Accordingly, the combined systems of Zawilinski and Kazama disclose all limitations of Claim 8.

As to Claim 9, Kazama further teaches the system is capable of identifying speech signals. Thus, it is inherent the system comprise some form of microphone for picking up said

speech signals. (Abstract; Col. 6, Ln. 32-44). Accordingly, the combined systems of Zawilinski and Kazama disclose all limitations of Claim 9.

Claim 35 corresponds to Claim 9. Thus, it is analyzed and rejected as previously discussed.

As to Claim 10, Kazama further discloses the system comprises a pressure sensor (i.e., senses pressure of viewing environment) used to analyzed the viewer's attention status. (Col. 10, Ln. 40-65). Accordingly, the combined systems of Zawilinski and Kazama disclose all limitations of Claim 10.

As to Claim 30, Kazama further discloses the system is capable of analyzing the gaze of the viewer in order to ascertain the attention period (i.e., duration of viewer's directional gaze before changing to different direction). (Col. 3, Ln. 39-Col. 4, Ln. 7). Accordingly, the combined systems of Zawilinski and Kazama disclose all limitations of Claim 30.

V. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in view of Ark et al. (US Pat. No. 6,190,314).

Claim 14 recites the method of Claim 11, wherein the physical condition is body temperature. As discussed above, Zawilinski anticipates each and every limitation of Claim 1, but fails to disclose the limitation of Claim 14. However, within the same field of endeavor, Ark et al disclose a similar system which analyzes the user's temperature. (Abstract; Col. 2, Ln. 39-41; Col. 4, Ln. 27-34). Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to combine the systems of Zawilinski and Ark in order to provide a system which can analyze a variety of physiological data.

VI. Claims 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in view of Abecassis. (US Pat. No. 5,664,046).

Claim 18 recites the method of Claim 11, further comprising limitations which will not be recited here, however each will be addressed in turn. As discussed above, Zawilinski anticipates each and every limitation of Claim 1, and further teaches said physiological responses can be associated with a preference level (i.e., various values given to responses). (Fig. 5). But, Zawilinski fails to disclose the remaining limitations of Claim 18. However, within the same field of endeavor, Abecassis discloses a similar system wherein the multimedia data is segmented according to a viewer's content preferences. Subsequently, the system analyzes this data to provide alternative program segments which meet said viewer preferences (i.e., enhances program selection). (Abstract; Col. 5, Ln. 40-67). Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to combine the systems of Zawilinski and Abecassis in order to provide a system which can provide alternate programming based upon a viewer's physiological responses to programming.

As to Claim 19, Abecassis further teaches that segments containing objectionable rating levels (i.e., distinguishing characteristics) are flagged (i.e., notification) in advance, thus allowing the editor to review them. (Col. 23, Ln. 54-Col. 24, Ln 44). Accordingly, the combined systems of Zawilinski and Abecassis disclose all limitations of Claim 19.

Claim 24 corresponds to Claim 19. Thus, it is analyzed and rejected as previously discussed.

As to Claim 20, Abecassis further teaches that, upon detecting an objectionable segment, the system will insert an acceptable segment. (citations used under Claim 18). Accordingly, the combined systems of Zawilinski and Abecassis disclose all limitations of Claim 20.

As to Claim 21, the Examiner takes Official Notice that, at the time of Applicant's invention, it was notoriously well known in this art to transmit program rating information (i.e., characteristic info) along with EPG data. Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to modify the combined systems of Zawilinski and Abecassis, thereby providing a system which allows the user to view rating information via the EPG.

As to Claim 22, Abecassis further teaches that segment data can be derived from programming video or audio. (Col. 7, Ln. 42-51). Moreover, as discussed under Claim 21, rating info can be derived from EPG (i.e., textual) data. Accordingly, the combined systems of Zawilinski and Abecassis disclose all limitations of Claim 22.

As to Claim 23, Abecassis further discloses the system comprising a storage unit which automatically records programming segments. (Abstract; Col. 14, Ln. 12-42). The remainder of the limitations are encompassed within the limitations of Claim 18. Accordingly, the combined systems of Zawilinski and Abecassis disclose all limitations of Claim 23.

VII. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in view of Black et al. (US Pat. No. 5,774,591).

Claim 31 recites the method of Claim 27, wherein the visually observable response includes the furrowing of the viewer's brow. As discussed above, Zawilinski anticipates each

and every limitation of Claim 27, and further teaches the system can analyzed the electrical impulses in the user's muscles (i.e., which can related to facial expressions), but fails to specifically recite analyzing eyebrow furrowing. However, within the same field of endeavor, Black et al disclose a similar system which analyzes changes in the viewer's eye brows. (Abstract; Col. 7, Ln. 1-45; Col. 26, Ln. 50-67; Col. 28, Ln. 28-62). Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to combine the systems of Zawilinski and Black in order to provide a system capable of analyzing facial features, thereby affecting the operation of a computer system.

The limitations of Claim 32 would be obvious variants of the limitations of Claim 31. Since Black et al allow for the analysis of user eyebrows, analyzing the depth of movement in said eyebrows would only be an obvious variant. Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to modify the combined systems of Zawilinski and Black in order to provide a system which analyzes the depth of furrows, thus allowing for an analysis of the level of a viewer facial response (i.e., level of anger, surprise, understanding, etc).

VIII. Claims 33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in view of Bentolila et al. (US Pat. Pub. No. 2003/0101449).

Claim 33 recites the method of Claim 11, wherein the associating step is performed at least in part by using a Hidden Markov Model technique. As discussed above, Zawilinski anticipates each and every limitation of Claim 11, but fails to discuss the limitations of Claim 33. However, within the same field of endeavor, Bentolila et al disclose a similar system which

utilizes a Hidden Markov technique. (Par. [0021]). Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to combine the systems of Zawilinski and Bentolila in order to provide a system for user profile data prediction.

Claim 38 corresponds to Claim 33. Thus, it is analyzed and rejected as previously discussed.

IX. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in view of Shinohara. (US Pat. Pub. No. 2003/0005431).

Claim 37 recite the method of Claim 34, wherein the audibly observable response is the inflection (i.e., changes in pitch or tone) of a listener's vocalization, tending to indicate a question has been enunciated. As discussed above, Zawilinski anticipates each and every limitation of Claim 34, but fails to specifically recite the limitations of Claim 37. However, within the same field of endeavor, Shinohara discloses a similar system which analyzes spectral data related to speech patterns, such as pitch, tone, frequency, etc., in order to identify a television viewer. (Par. [0026]). Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to combine the systems of Zawilinski and Shinohara in order to provide a system which is capable of analyzing various tones, pitches, etc. of a given voice.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. *Agnihotri* et al (US Pat. Pub. No. 2002/0178440) disclose a similar system.
- b. *Orbach* et al (US Pat. No. 5,896,164) disclose a video system which provides biofeedback.
- c. *Claessens* (US Pat. No. 6,516,464) discloses a system for detecting audience response to various stimuli.
- d. *Schmidt* et al (US Pat. No. 5,243,517) disclose a system for evaluating physiological data in response to stimulus provided by multimedia data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jade O. Laye whose telephone number is (571) 272-7303. The examiner can normally be reached on Mon. 7:30am-4, Tues. 7:30-2, W-Fri. 7:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Jade O. Laye
December 21, 2005.



VIVEK SRIVASTAVA
PRIMARY EXAMINER